

Name: _____

at1118paper: Complete the Square (v0)

Example

By completing the square, find both solutions to the given equation:

$$x^2 - 40x = -336$$

Add $\left(\frac{-40}{2}\right)^2$, which equals 400, to both sides of the equation.

$$x^2 - 40x + 400 = 64$$

Factor the left side.

$$(x - 20)^2 = 64$$

Undo the squaring. We need to consider both $\pm\sqrt{64}$.

$$x - 20 = -8$$

or

$$x - 20 = 8$$

$$x = -28$$

or

$$x = -12$$

Question 1

By completing the square, find both solutions to the given equation:

$$x^2 + 52x = 224$$

Question 2

By completing the square, find both solutions to the given equation:

$$x^2 - 34x = 1475$$

Question 3

By completing the square, find both solutions to the given equation:

$$x^2 - 20x = -91$$

Question 4

By completing the square, find both solutions to the given equation:

$$x^2 - 60x = 1804$$

Question 5

By completing the square, find both solutions to the given equation:

$$x^2 + 54x = -728$$

Question 6

By completing the square, find both solutions to the given equation:

$$x^2 - 18x = 280$$